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10/08/2003

Patrick F. Gonzalez

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INTELLECTUAL PROPERTY ADMINISTRATION

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EXAMINER

EGAN, SCOTT T

ART UNIT

PAPER NUMBER

2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/681,816	Applicant(s) GONZALEZ, PATRICK F.	
	Examiner Scott Egan	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

1. This action is responsive to the original application filed on October 8, 2003.
2. Claims 1-20 are currently pending in this application. Claim 1, 10 and 20 are independent.

Claim Objections

3. Claim 18 objected to because of the following informalities: the method claim 18 refers to the apparatus claim 1; for the purposes of examination this will be interpreted as depending on claim 10. Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1 – 20 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 2, 3, 4, 8, 9, 12,

and 13 of copending Application No. 10/681,801 in view of Nozaki et al.

Consider claims 1, 2, 8, 10, 11, 12, 18, 19, and 20 although the conflicting claims are not identical, they are not patentably distinct from each other because claims 3, 4, 2, 9, 9, 12, 8, 13, and 9 of the co-pending application differ with respect to the image processing performed after the capture of an image. Claims 3, 4, 2, 9, 9, 12, 8, 13, and 9 of the co-pending application do not specify that the processing that is to be done is blur correction.

In the same field of endeavor, Nozaki et al. teach an electronic camera that performs blur correction during processing of the image. Nozaki et al. further teach that the blur correction is done in order to reduce the effect of hand shaking using information from before and after the release of a trigger (column 4, lines 47-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the blur correction found in Nozaki et al. into the processing system and method found in the co-pending application in order to get an image with the smallest amount of blur, without using conventional hand shaking mechanism (Nozaki et al. column 8, lines 52-57), thus reducing the processing and size of the camera.

As for Claim 19, it is identical to Claim 13 of the co-pending application.

As for Claims 3-7, and 9 they are rejected due to their dependency on Claim 1.

As for Claims 13-17 they are rejected due to their dependency on Claim 10.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. **Claims 7 and 17** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed "dividing the at least one auxiliary frame by the blur component to result in the blur corrected image frame" is not discussed in the specification and therefore it is unclear as to how this process would be done or how this process would remove the blur component.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 1-4, 8-14, and 18-20** are rejected under 35 U.S.C. 102(e) as being anticipated by Nozaki et al. (US 7,027,087).

Consider **claim 1**, Nozaki et al. explicitly teach "a digital camera for capturing an image comprising:

an image sensor (image pick-up means 1, figure 1; image pick-up element 23, figure 3);

a capture trigger (release button 30, figure 3);

a capture buffer comprising a plurality of buffer locations (temporary memory means 2, figure 1; image memory 25, figure 3), each of which is available for storing image data (in the electronic camera, the temporary memory means 2 takes new image data from the image pick-up means 1 successively while waiting for the release operation, column 4, lines 36-37); and

a processing system (microprocessor 26 and image processor 24, figure 3) configured to receive a plurality of auxiliary image frames from the image sensor (column 8, lines 12-15) and to store each auxiliary image frame in an available buffer location (column 8, lines 16-21), to detect activation of the capture trigger (the switch output of the release button 30 is connected to the microprocessor 26, column 7 lines 32-34) and receive a corresponding image frame from the image sensor (column 8, lines 12-15), to store the corresponding image frame in another available buffer location (column 8, lines 16-21), to perform blur correction on the corresponding image frame using at least one auxiliary image frame (column 8, lines 52-57), and to designate the

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buffer locations in which the corresponding image frame and the at least one auxiliary image frame are stored as unavailable for image storage until the blur correction is complete (figure 4 shows the process, which is interpreted as showing that the memory is unavailable until the information is recorded in the saving area at S8 and then the process begins again with an available memory location)."

Consider **claim 2**, Nozaki et al. explicitly teach "the digital camera of claim 1 wherein the processing system further is configured to perform blur correction on the corresponding image frame using a plurality of auxiliary image frames (column 8, lines 52-55 describe how the microprocessor chooses the image with the least blur, which is interpreted as blur correction) and to designate the buffer locations in which the plurality of auxiliary image frames are stored as unavailable for image storage until the blur correction is complete (column 4, lines 43-56 also describe how the temporary memory stops accepting new data when the switch is activated and there are frames from before and after the shutter is pressed in the memory, which could be used in compensate for hand shake, which is interpreted as processing of the image)."

Consider **claim 3**, Nozaki et al. explicitly teach "the digital camera of claim 2 wherein the plurality of auxiliary image frames comprise at least one auxiliary image frame before the corresponding image frame and one auxiliary image frame after the corresponding image frame (column 4, lines 43-56 also describe how the temporary memory stops accepting new data when the switch is activated and there are frames from before and after the shutter is pressed in the memory, which could be used in compensate for hand shake, which is interpreted as processing of the image)."

Consider **claim 4**, Nozaki et al. explicitly teach “the digital camera of claim 2 wherein the plurality of auxiliary image frames comprise a plurality of auxiliary image frames before the corresponding image frame (column 4, lines 43-56 also describe how the temporary memory stops accepting new data when the switch is activated and there are frames from before and after the shutter is pressed in the memory, which could be used in compensate for hand shake, which is interpreted as processing of the image).”

Consider **claim 8**, Nozaki et al. explicitly teach “the digital camera of claim 1 wherein the processing system further is configured to detect a second activation of the capture trigger (after storing the image in the saving memory in S8 the camera again can detect a trigger release in S1, figure 4) and to receive a second corresponding image frame from the image sensor (column 8, lines 12-15), to store the second corresponding image frame in a second available buffer location (column 8, lines 16-21), to perform second blur correction on the second corresponding image frame using at least one second auxiliary image frame (column 8, lines 52-55 describe how the microprocessor chooses the image with the least blur, which is interpreted as blur correction), and to designate the buffer locations in which the second corresponding image frame and the at least one second auxiliary image frame are stored as unavailable for image storage until the second blur correction is complete (figure 4 shows the process, which is interpreted as showing that the memory is unavailable until the information is recorded in the saving area at S8 and then the process begins again with an available memory location).”

Consider **claim 9**, Nozaki et al. explicitly teach "the digital camera of claim 1 wherein the processing system further is configured to compress the corresponding image frame prior to storing the corresponding image frame in the another available buffer location with at least one compression algorithm selected from a group consisting of A-law compression, μ -law compression, and discard mode compression (the image processor 24 performs color signal processing, A/D conversion, γ correction, image compression and the like, column 7 lines 14-17)."

Consider **claim 10**, Nozaki et al. explicitly teach "a method for capturing an image in a digital camera, the digital camera comprising an image sensor (image pick-up means 1, figure 1; image pick-up element 23, figure 3), a capture trigger (release button 30, figure 3), a capture buffer (temporary memory means 2, figure 1; image memory 25, figure 3) comprising a plurality of buffer locations each of which is available for storing image data (in the electronic camera, the temporary memory means 2 takes new image data from the image pick-up means 1 successively while waiting for the release operation, column 4, lines 36-37), and a processing system (microprocessor 26 and image processor 24, figure 3), the method comprising:

storing each of a plurality of auxiliary image frames from the image sensor in an available buffer location (column 8, lines 16-21);

detecting activation of the capture trigger (the switch output of the release button 30 is connected to the microprocessor 26, column 7 lines 32-34) at the processing system and storing a corresponding image frame from the image sensor in another available buffer location (column 8, lines 12-15); and

performing blur correction with the processing system on the corresponding image frame using at least one auxiliary image frame (column 8, lines 45-48 are interpreted to mean the microprocessor continues processing, see also column 8, lines 52-57 for blur correction)."

Consider **claim 11**, Nozaki et al. explicitly teach "the method of claim 10 further comprising designating the buffer locations in which the corresponding image frame and the at least one auxiliary image frame are stored as unavailable for image storage until the blur correction is complete (figure 4 shows the process, which is interpreted as showing that the memory is unavailable until the information is recorded in the saving area at S8 and then the process begins again with an available memory location)."

Consider **claim 12**, Nozaki et al. explicitly teach "the method of claim 10 further comprising performing blur correction on the corresponding image frame using a plurality of auxiliary image frames and designating the buffer locations in which the corresponding image frame and the plurality of auxiliary image frames (column 8, lines 52-55 describe how the microprocessor chooses the image with the least blur, which is interpreted as blur correction) are stored as unavailable for image storage until the blur correction is complete (column 4, lines 43-56 describe how the temporary memory stops accepting new data when the switch is activated and there are frames from before and after the shutter is pressed in the memory, which could be used in compensate for hand shake, which is interpreted as processing of the image)."

Consider **claim 13**, Nozaki et al. explicitly teach "the method of claim 12 wherein using a plurality of auxiliary image frames comprises using at least one auxiliary image

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frame before the corresponding image frame and at least one auxiliary image frame after the corresponding image frame (column 4 lines 42-56 describe how information before and after the trigger are used)."

Consider **claim 14**, Nozaki et al. explicitly teach "the method of claim 12 wherein using a pluralit³¹ of auxiliary image frames comprises using a plurality of auxiliary image frames before the corresponding image frame (column 4 lines 42-56 describe how information before and after the trigger are used)."

Consider **claim 18**, Nozaki et al. explicitly teach "the method of claim 10 further comprising:

detecting a second activation of the capture trigger (the switch output of the release button 30 is connected to the microprocessor 26, column 7 lines 32-34, the microprocessor can detect each time the release button is activated) at the processing system and storing a second corresponding image frame from the image sensor (column 8, lines 12-15, each time the shutter is pressed the image information is stored) in a second another available buffer location (column 8, lines 16-21); and

performing blur correction (column 8, lines 52-55 describe how the microprocessor chooses the image with the least blur, which is interpreted as blur correction) with the processing system on the second corresponding image frame using at least one second auxiliary image frame (column 8, lines 45-48 are interpreted to mean the microprocessor continues processing)."

Consider **claim 19**, Nozaki et al. explicitly teach "the method of claim 10 further comprising compressing the corresponding image frame prior to storing the

corresponding image frame in the another available buffer location with at least one compression algorithm selected from a group consisting of A-law compression, μ -law compression, and discard mode compression (the image processor 24 performs color signal processing, A/D conversion, γ correction, image compression and the like, column 7 lines 14-17)."

Consider **claim 20**, Nozaki et al. explicitly teach "a method for capturing an image in a digital camera, the digital camera comprising an image sensor (image pick-up means 1, figure 1; image pick-up element 23, figure 3), a capture trigger (release button 30, figure 3), a first section of memory (temporary memory means 2, figure 1; image memory 25, figure 3), a second section of memory (temporary memory means 2, figure 1; image memory 25, figure 3), and a processing system (microprocessor 26 and image processor 24, figure 3), the method comprising:

storing each of a plurality of auxiliary image frames from the image sensor in the first section of memory (column 8, lines 16-21);

detecting activation of the capture trigger (the switch output of the release button 30 is connected to the microprocessor 26, column 7 lines 32-34) at the processing system and storing a corresponding image frame from the image sensor in the second section of memory (column 8, lines 12-15); and

performing blur correction with the processing system on the corresponding image frame using at least one of the plurality of auxiliary image frames in the first section of memory (column 8, lines 45-48 are interpreted to mean the microprocessor continues processing, see also column 8, lines 52-57 for blur correction)."

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claims 5, 6, 15, and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nozaki et al.** in view of **Nishiwaki (US 6,900,831)**.

Consider **claim 5** Nozaki et al. explicitly teach the digital camera of claim 1 with a processing system configured to perform blur correction (column 8, lines 52-55 describe how the microprocessor chooses the image with the least blur, which is interpreted as blur correction).

However, Nozaki et al. do not explicitly teach that the blur correction is done by determining a blur component from an auxiliary frame and then removing the blur component from the corresponding image frame to determine a blur corrected frame.

In the same field of endeavor, Nishiwaki teaches an image-sensing apparatus with electronic blur correction. Nishiwaki further discloses in column 7 lines 64-67 through column 8 lines 1-6 that the electronic blur correction is done using a correlation of the current image and the next frame, a blur or moving amount is calculated and then the blur is removed by extracting a region by moving the image region (also seen in figure 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the electronic blur detection found in Nishiwaki into the processing system configured to perform blur correction found in Nozaki et al. in order to reduce the power consumption of the system (Nishiwaki et al. column 8, lines 24-25).

Consider **claim 6**, the combination of Nozaki et al. in view of Nishiwaki further teaches that the processing system is configured to determine the blur component by integrating a blur correction for at least one auxiliary frame (Nishiwaki et al. column 8, lines 24-25, the correlation between the two frames is interpreted as integrating a blur correction of the next frame).

Consider **claim 15** Nozaki et al. explicitly teach the method of claim 10 a blur processing step (column 8, lines 52-55 describe how the microprocessor chooses the image with the least blur, which is interpreted as blur correction).

However, Nozaki et al. do not explicitly teach that the blur correction is done by determining a blur component from an auxiliary frame and then removing the blur component from the corresponding image frame to determine a blur corrected frame.

In the same field of endeavor, Nishiwaki teaches an image-sensing apparatus with electronic blur correction. Nishiwaki further discloses in column 7 lines 64-67 through column 8 lines 1-6 that the electronic blur correction is done using a correlation of the current image and the next frame, a blur or moving amount is calculated and then the blur is removed by extracting a region by moving the image region (also seen in figure 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the electronic blur detection found in Nishiwaki into the blur processing step found in Nozaki et al. in order to reduce the power consumption of the system (Nishiwaki et al. column 8, lines 24-25).

Consider **claim 16**, the combination of Nozaki et al. in view of Nishiwaki further teaches that the blur processing step comprises integrating a blur correction function for the at least one auxiliary image frame (Nishiwaki et al. column 8, lines 24-25, the correlation between the two frames is interpreted as integrating a blur correction of the next frame).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pope (US 2004/0070679) discloses a system for compensating for delays in a digital still imaging system and the use image buffer for continuously capturing images of a scene and then selected a particular image to save based on a shutter release button being depressed. Lee (US 2005/0001908) discloses a digital camera with continuous image acquisition and the use of a buffer memory to store the images until a button is depressed. Kondo et al. (US 7,154,541) disclose an image processing device that performs blur correction, by detecting motion during the capturing of an image and removing the blur by multiplying by the blur amount.

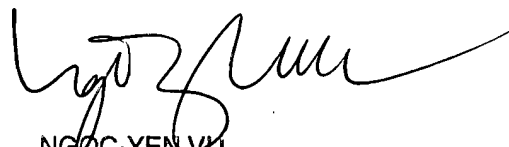
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Egan whose telephone number is (571) 270-1452. The examiner can normally be reached on Monday-Friday 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SE



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SUPERVISORY PATENT EXAMINER